

Amendments to the Specification:

Please replace the paragraph beginning at page 5, line 10, with the following amended paragraph:

The inventor has recognized that what is important to characterize is not necessarily the actual physical deformation of the stage mirror, but its “effective” optical deformation with respect to the interferometric measurement beam(s) during the photolithography exposure cycle. This ~~effect~~ effective optical deformation includes not only physical deformations in the mirrors, but also optical gradients along the measurement beam path caused by environmental effects, such as heat and air turbulence, produced by the movement of the stage during the photolithography exposure cycle. Such optical gradients can modify the propagation properties of the interferometric measurement beams in the same way as physical deformations in the mirrors. Thus, the present method implements a mirror characterization procedure in-process to incorporate the environmental effects into the characterization. The characterization is then used to correct in-process interferometric measurements of the stage.